

What is claimed is:

1. A pneumatic tire provided with a belt layer composed of a plurality of strip pieces each of which is formed by pulling together and rubberizing a plurality of steel cords, wherein, when a width of the respective strip pieces, an applicable number of the strip pieces, a cord angle of the belt layer with respect to a circumferential direction of the tire, and a circumferential length of the belt layer are respectively denoted by  $A$ ,  $N$ ,  $\theta$ , and  $L$ : an integer satisfying  $(N+1) \times A / \sin \theta > L > N \times A / \sin \theta$  is selected as the applicable number  $N$ ; and the belt layer is formed by aligning the  $N$  strip pieces in the circumferential direction of the tire with equal spaces disposed between adjacent ones of these  $N$  strip pieces.

2. A pneumatic tire provided with two belt layers each composed of a plurality of strip pieces each of which is formed by pulling together and rubberizing a plurality of steel cords, wherein, when a width of the respective strip pieces, a thickness of the respective strip pieces, a cord angle of the respective belt layers with respect to a circumferential direction of the tire, applicable numbers of the strip pieces composing the respective inner and outer belt layers, and circumferential lengths of the respective inner and outer belt layers are respectively denoted by  $A$ ,  $G$ ,  $\theta$ ,  $N_1$  and  $N_2$ , and  $L_1$  and  $L_2$ : the applicable number  $N_2$  is set equal to the applicable number  $N_1$  while an integer satisfying  $L_1 = N_1 \times A / \sin \theta$  is selected as the applicable number  $N_1$ ; the inner belt layer is formed by joining the  $N_1$  strip pieces to one another in a manner that each of both sides of each strip piece is butted with one side of another strip piece; and the outer belt layer is formed by aligning the  $N_2$  strip pieces on the inner belt layer in the circumferential direction of the tire

with spaces, which are each equivalent to  $2\pi G/N_2$ , disposed between adjacent ones of these  $N_2$  strip pieces.

3. A method of manufacturing a pneumatic tire provided with a belt layer composed of a plurality of strip pieces each of which is formed by pulling together and rubberizing a plurality of steel cords, when a width of the respective strip pieces, an applicable number of the strip pieces, a cord angle of the belt layer with respect to a circumferential direction of the tire, and a circumferential length of the belt layer are respectively denoted by  $A$ ,  $N$ ,  $\theta$ , and  $L$ , the method comprising the steps of:

selecting an integer satisfying  $(N+1) \times A / \sin \theta > L > N \times A / \sin \theta$  as the applicable number  $N$ ; and

forming the belt layer by aligning the  $N$  strip pieces on a molding drum in the circumferential direction of the tire with equal spaces disposed between adjacent ones of these  $N$  strip pieces.

4. A method of manufacturing a pneumatic tire provided with two belt layers each composed of a plurality of strip pieces each of which is formed by pulling together and rubberizing a plurality of steel cords, when a width of the respective strip pieces, a thickness of the respective strip pieces, a cord angle of the respective belt layers with respect to a circumferential direction of the tire, applicable numbers of the strip pieces composing the respective inner and outer belt layers, and circumferential lengths of the respective inner and outer belt layers are respectively denoted by  $A$ ,  $G$ ,  $\theta$ ,  $N_1$  and  $N_2$ , and  $L_1$  and  $L_2$ , the method comprising the steps of:

setting the applicable number  $N_2$  equal to the applicable number  $N_1$  while selecting an integer satisfying  $L_1 = N_1 \times A / \sin \theta$  as the applicable

number  $N_1$ ;

forming the inner belt layer by joining the  $N_1$  strip pieces to one another in a manner that each of both sides of each strip piece is butted with one side of another strip piece; and

forming the outer belt layer by aligning the  $N_2$  strip pieces on the inner belt layer in the circumferential direction of the tire with spaces, which are each equivalent to  $2\pi G/N_2$ , disposed between adjacent ones of these  $N_2$  strip pieces.

5. A pneumatic tire provided with a belt layer composed of a plurality of strip pieces each of which is formed by pulling together and rubberizing a plurality of steel cords, wherein, when a width of the respective strip pieces, an applicable number of the strip pieces, a cord angle of the belt layer with respect to a circumferential direction of the tire, and a circumferential length of the belt layer are respectively denoted by  $A$ ,  $N$ ,  $\theta$ , and  $L$ : an integer satisfying  $(N+1) \times A / \sin \theta > L > N \times A / \sin \theta$  is selected as the applicable number  $N$ ; an annular body is formed by joining the  $N$  strip pieces to one another in a manner that each of both sides of each strip piece is butted to one side of another strip piece; and the belt layer is formed by elongating a circumferential length of the annular body to the length  $L$ .

6. A pneumatic tire provided with two belt layers each composed of a plurality of strip pieces each of which is formed by pulling together and rubberizing a plurality of steel cords, wherein, when a width of the respective strip pieces, a cord angle of the respective belt layers with respect to a circumferential direction of the tire, applicable numbers of the strip pieces composing the respective inner and outer belt layers, and

circumferential lengths of the respective inner and outer belt layers are respectively denoted by  $A$ ,  $\theta$ ,  $N_1$  and  $N_2$ , and  $L_1$  and  $L_2$ : the applicable number  $N_1$  is set to a number satisfying a relation " $N_1 = N_2 - 1$ " while an integer satisfying  $L_2 = N_2 \times A / \sin \theta$  is selected as the applicable number  $N_2$ ; an annular body is formed by joining the  $N_1$  strip pieces to one another in a manner that each of both sides of each strip piece is butted with one side of another strip piece; the inner belt layer is formed by elongating a circumferential length of the annular body to the length  $L_1$ ; and the outer belt layer is formed by joining the  $N_2$  strip pieces to one another on the inner belt layer in a manner that each of both sides of each strip piece is butted with one side of another strip piece.

7. A method of manufacturing a pneumatic tire provided with a belt layer composed of a plurality of strip pieces each of which is formed by pulling together and rubberizing a plurality of steel cords, when a width of the respective strip pieces, an applicable number of the strip pieces, a cord angle of the belt layer with respect to a circumferential direction of the tire, and a circumferential length of the belt layer are respectively denoted by  $A$ ,  $N$ ,  $\theta$ , and  $L$ , the method comprising the steps of:

selecting an integer satisfying  $(N+1) \times A / \sin \theta > L > N \times A / \sin \theta$  as the applicable number  $N$  of the strip pieces;

forming an annular body by joining the  $N$  strip pieces to one another on an expandable and contractible molding drum in a manner that each of both sides of each strip piece is butted with one side of another strip piece; and

thereafter forming the belt layer by elongating a circumferential

length of the annular body to the length  $L$  with expansion of the molding drum in a diameter direction thereof.

8. A method of manufacturing a pneumatic tire provided with two belt layers each composed of a plurality of strip pieces each of which is formed by pulling together and rubberizing a plurality of steel cords, when a width of the respective strip pieces, a cord angle of the respective belt layers with respect to a circumferential direction of the tire, applicable numbers of the strip pieces composing the respective inner and outer belt layers, and circumferential lengths of the respective inner and outer belt layers are respectively denoted by  $A$ ,  $\theta$ ,  $N_1$  and  $N_2$ , and  $L_1$  and  $L_2$ , the method comprising the steps of:

setting the applicable number  $N_1$  to a number satisfying a relation " $N_1 = N_2 - 1$ " while selecting an integer satisfying  $L_2 = N_2 \times A / \sin \theta$  as the applicable number  $N_2$ ;

forming an annular body by joining the  $N_1$  strip pieces to one another on an expandable and contractible molding drum in a manner that each of both sides of each strip piece is butted with one side of another strip piece;

thereafter forming the inner belt layer by elongating a circumferential length of the annular body to the length  $L_1$  with expansion of the molding drum in a diameter direction thereof; and

subsequently forming the outer belt layer by joining the  $N_2$  strip pieces to one another on the inner belt layer in a manner that each of both sides of each strip piece is butted with one side of another strip piece.